

## Passive Retrofitting Strategies for Windows in Hot and Humid Climate Vijayawada

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**Abstract :** Nowadays human beings attain comfort zone artificially for heating, cooling and lighting the spaces they live, and their main importance is given to aesthetics of building and they are not designed to protect themselves from climate. They depend on artificial sources of energy resulting in energy wastage. In order to reduce the amount of energy being spent in the construction industry and Energy Package goals by 2020, new ways of constructing houses is required. The larger part of energy consumption of a building is directly related to architectural aspects hence nature has to be integrated into the building design to attain comfort zone and reduce the dependency on artificial source of energy. The research is to develop bioclimatic design strategies and techniques for the walls and roofs of Vijayawada houses. Study and analysis of design strategies and techniques of various cases like Kerala, Mangalore etc. for similar kind of climate is examined in this paper. Understanding the vernacular architecture and modern techniques of that various cases and implementing in the housing of Vijayawada not only decreases energy consumption but also enhances socio cultural values of Vijayawada. This study focuses on the comparison of vernacular techniques and modern building bio climatic strategies to attain thermal comfort and energy reduction in hot and humid climate. This research provides further thinking of new strategies which include both vernacular and modern bioclimatic techniques.

**Keywords :** bioclimatic design, energy consumption, hot and humid climates, thermal comfort

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